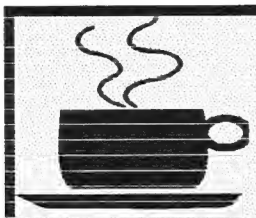
PAARA NEWSLETTER
VOLUME 49 NUMBER 1 January 2000

W6OTX

PAARAgraphs

Celebrating 62 years as an *active* ham radio club—*Since 1937*
Newsletter for the **Palo Alto Amateur Radio Association, Inc.**



CALENDAR

Jan 7, **PAARA Meeting**, 7:30,
Menlo Park Recreation Center
700 Alma Street, Menlo Park

Jan 12, **PAARA Board Meeting**, 7:30
Red Cross Bld., 400 Mitchell Ln., Palo Alto

Jan 14, **PAARA Winter Party**
"Michaels At Shoreline Restaurant", 2960 N Shoreline Blvd, MtView

Feb 4, **PAARA Meeting**, 7:30

Feb 9, **PAARA Board Meeting**, 7:30

2 m **CODE PRACTICE**, 2000 to 2030 PST Tues
W6APZ 145.23 repeater

PROGRAM

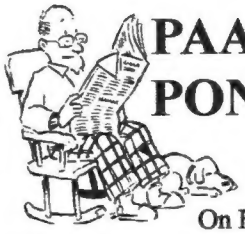
January 7, 1999
7:30 P.M.

Speaker:

Not confirmed at press time
Check Monday night Net

Join us for pre-meeting eyeball
6 pm— at Su Hong Restaurant , 1039 El Camino Real, Menlo Park

—PAARA Radio NET every Monday evening at 8:30 P.M.,local time—
on the 145.230 -600 MHz repeater, PL tone off



PAARA PONDERINGS

de VIC BLACK, AB6SO

On Fri, Nov 19 PAARA member **Don Trask KF6JMQ** reported his Leonids Meteor Scatter experience. "I read and implemented the Nov QST article on automated meteor scatter stations at my QTH with a two meter beam pointed east on the roof. When I checked the computer screen Thurs AM it was blank. No hits. I'm missing some KPC3P setting that shows incoming packets, I guess. Today, I was surprised to get the following email from Petaluma: 'Hi Don. Just a note to let you know I received your UI packet on 147.585 at 0232 PST this morning, Thursday the 18th. That corresponds with the reported height of meteor activity from about 0200 to 0400 local. I had many local station calls on my MHEARD List that were dupes all night long in the log file. Since yours was in the log file just the one time I'm satisfied I heard you via scatter. I'm located in Petaluma, about 90 miles north of you, grid square CM88qf. I was just listening (no xmit) since I only had a 5-watt H/T on an omni and didn't think anyone would hear me. Rig here is an HTX-202 H/T on a Diamond 510 into a MFJ 1278 monitored with Paket 6.1. 73, **Mike Knope, KD6LYU'** ".

PAARA member **Kit Kohlmoos W6ISO** has been assigned special callsign **K6L** for July 8 thru 10, 2000 which coincides with World Radio Team Championship (WRTC) 2000. WRTC is scheduled every four years much like the Olympic Games. During next year's test, **Kit** will celebrate the WRTC '96 anniversary for which he hosted Polish entry K6L.

From time to time, I mention unusual callsigns on the air. During the final weeks of 1999 you may hear or work a very unusual callsign **9A643KC**. This special event station commemorated the 643rd anniversary of the town Koprivnika, Croatia. QSL via **9A7K**, Kresimir Juratovic, P.O. Box 88, HR-48000 Koprivnika, Croatia. Also from Croatia **9A10CRO** will operate a special event station during 2000 to commemorate the 10th anniversary of the Democratic State of Croatia. QSL manager: **9A7K**.

(Continued on page 4)Ponderings

Miscellaneous Dates

Flea Market at Foothill (info at: http://joslin.com/FleaMarket)
Watch for schedule in the Spring

PAARA Palo Alto Amateur Radio Association
meets 1st Friday 7:30 each month, Net 145.230 each Monday 8:30,
contact: Andreas Junge N6NU.....(650) 233 0843

EMARC Electronics Museum Amateur Radio Club
meets 4th Friday 7:30 each month,
contact: Sheldon Edelman 650-858-2176, Edelman@richochet.net

NCDXC Northern California DX Club
meets 2nd Friday 7:30 each month, repeater for member info 147.360, Thur 8:00PM,
contact: Bob Mammarella KB6FEC 408 729 1544.

NorCalQRP Northern California QRP Club
meets 1st Sunday each month,
contact: Jim Cates 3241 Eastwood Rd., Sacramento, CA 95821.

Perham Foundation,
contact: Jerry Tucker WA6LNV 650-961-3266

SPECS Southern Peninsula Emergency Communication System
meets each Monday 8:00PM on Net 145.27, 440.80 MHz, www.specsnet.org
contact: Tom Cascone, KF6LWZ, 650-688-0441 .specs@svpal.org

SCARES South County Amateur Radio Emergency Service
meets 3rd Thursday 7:30 each month, San Carlos City Hall.
Net is on 144.45 & 444.50 (PL-100) 7:30 Monday evenings.
contact:

SCCARA Santa ClaraCounty Amateur Radio Association
Operates W6UU repeater 146.385+ Nets: 2m, W6UU, 7:30 Mon; 10m, 28.385, 8:00 Thur. meets 2nd Mon each month.
contact: Jack Ruckman AC6FU

SVECS Silicon Valley Emergency Communications
Operates WB6ADZ repeater (146.115 MHz+)
contact: Lou Stierer WA6QYS 408 241 7999

WVARA West Valley Amateur Radio Association
operates W6PIY repeater 147.39+, 223.96, 441.875, 1286.2
meets 3rd Wed every month.
contact: Glen Lokke Jr. KE6NBO at 408 971 8626, or glokke@pacbell.net

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Disaster Services,

PALO ALTO CHAPTER, American Red Cross
Meets 3rd Wed. each month 7:30PM,
HF, packet, BBS, ATV, OSCAR Gateway, NASA satellite,
contact: Alan Ball 650-688-0423.

SAN JOSE CHAPTER. American Red Cross
contact: Scott Hensley KB6UOO, 408 249 7093, fsh@richochet.net

VE Exams, 3rd Saturday each month, 11AM, 145.23- PL=100Hz
American Legion Hall,.651 El Camino Real, R.C.
contact: Al Montoya at WB6IMX@worldnet.att.net .

January Contest Calendar 2000

~Vic Black, AB6SO~

(for rules and exchanges, see www.contesting.com)

1,2	Millenium PSK31 Contest 1200Z, Jan 1 - 1200Z, Jan 2
1	Kid's Day Contest 1800Z - 2400Z, Jan 1
7-9	Japan Int. DX Contest, 160-40m 2200Z, Jan 7 - 2200Z, Jan 9
8	Midwinter Contest, CW 1400Z - 2000Z, Jan 8
9	Midwinter Contest, Phone 0800Z - 1400Z, Jan 9
8,9	ARRL RTTY Roundup 1800Z, Jan 8 - 2400Z, Jan 9
8,9	North American QSO Party, CW 1800Z, Jan 8 - 0600Z, Jan 9
9	QRP ARCI Winter Fireside SSB Sprint 2000Z - 2400Z, Jan 9
15,16	Hunting Lions in the Air Contest 0000Z, Jan 15 - 2400Z, Jan 16
15	LZ Open Contest, CW 1200Z - 2000Z, Jan 15
15,16	MI QRP Club CW Contest 1200Z, Jan 15 - 2359Z, Jan 16
15,16	North American QSO Party, SSB 1800Z, Jan 15 - 0600Z, Jan 16
22,23	BARTG RTTY Sprint 1200Z, Jan 22 - 1200Z, Jan 23
22-24	ARRL January VHF Sweepstakes 1900Z, Jan 22 - 0400Z, Jan 24
28-30	CQ 160-Meter Contest, CW 2200Z, Jan 28 - 1600Z, Jan 30
29,30	REF Contest, CW 0600Z, Jan 29 - 1800Z, Jan 30
29,30	UBA Contest, Phone 1300Z, Jan 29 - 1300Z, Jan 30
29,30	Kansas QSO Party 1800Z, Jan 29 - 1800Z, Jan 30

CONGRATULATIONS TO PAARA Yr 2000 OFFICERS & DIRECTORS

Palo Alto Amateur Radio Association, Inc.
PO Box 911
Menlo Park, CA 94026

President — Andreas Junge N6NU.....(650) 233 0843
andreas@atltech.com

Vice President — Jon Zweig, AD6FX . (650) 324 8751
jzweig@sirius.com

Secretary — ?????

Treasurer.....Dan Curry, K6DLC.....(650) 366 7846
pineapp@netcom.netcom.com

Membership.....Vic Black, AB6SO.....(650) 366 0636
vic.black@adept.com, ab6so@smrn.com

Trustee/Property/Badges..Fred Canham, K6YT .....(650) 948 9238

ARES Officer.....Lily Anne Hillis, N6PGM .....(650) 325 5484

Club Historian.....Steve Stuntz, K6FS.....(650) 322 4952

Advertising.....Bob Korte, KD6KYT.....(650) 595 1842

Webmaster ...../Andreas Junge AD6FQ.....(650) 233 0843
andreas@atltech.com

Board of Directors

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wd6fafwebtv.net
Doug Schliebus, K1DIT (650) 851 0727 '00
schliebus@aol.com
Don Trask, KF6JMQ (408) 251 6494 '01
Joel Wilhite, KA7TXV (650) 325 8239 '01
Gerry Tucker, WA6LNV (650) 326 4908 '01
(see "Calendar" for Board meeting times, **visitors welcome**)

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Submit material for PAARA*graphs* by the 15th
PAARA Website http://www.qsl.net/paara/

THANKS

TO

PAARA

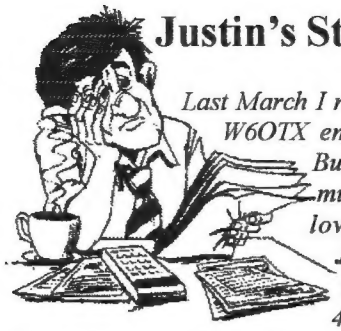
OUTGOING OFFICERS

***Secretary*—Dave Rice, W6NUC**

***Treasurer*—Doug Schliebus, K1DIT**

OUTGOING BOARD MEMBERS

John Buonocore, KD6ZL
Terry Conboy, N6RY
Steve Stuntz, K6FS



Justin's Story:K5AEA

de Vic Black, AB6SO

Last March I reported the results of PAARA's W6OTX entry in the FYBO (Freeze Your Buns Off) contest in which extra multipliers are earned based on low operating temperatures. ***Justin McAllister KD5AKO*** *reported running ¾ watt for a 459 report when we worked him. Then came the e-mail: "Vic, you might be interested in knowing that I read the wattmeter wrong on the QSOs on 15M. I thought I was running 750 mW, but it was really only 75 mW! A friend was playing around yesterday and noticed that the switch was stuck on the wattmeter. So, how's that for a dipole?!!! That's by far the most miles per watt I've gotten. It looks like 17,333 as my computer shows you to be 1297 miles, about."*

I asked Justin to tell PAARAgraphs readers about his ham career. Here's his reply:

Hello. My name is **Justin McAllister**, and my new callsign is **K5AEA** (chosen 'cause it's short in CW). I'm 19 years old and I hold an Advanced Class Amateur Radio Operator's License. I'm from Weatherford, TX. I enjoy playing soccer, rock climbing, backpacking and both snow and water skiing.

Thanks to Ham Radio I'm a freshman at the University of Texas at Dallas, majoring in Electrical Engineering. I am mainly interested in wireless communications, specializing in antenna design. I like to build and test antennas for HF, VHF, and UHF. You can usually find me chasing DX on 10, 12, or 17 meters, or on 14.300 when mobile. I currently don't have a permanent station at my apartment, so I usually use the club station here at the university under my own call, but also look for the university call **K5UTD** where I'm Vice President of the Comet ARC. My interests right now are mainly in my studies, but radio-wise I like to work QRP Portable, DX, Mobile HF and VHF, Foxhunting, Skywarn, and other Emergency communications.

I became interested in Amateur Radio in April of 1997, and became licensed as a Technician in May. By November 1997, my interests pointed more toward HF, long distance contacts, so I learned Morse code and earned my Tech Plus ticket that month. After working many stations on 10M phone and 40M CW, my code speed gradually increased to 13 wpm. Just before field day, 1998 I earned my General Class license. I saw CW as only a hurdle, and after I upgraded to General, I thought to myself, "OK, now that I'm a General, I'm gonna be an SSB man, chasing DX with my new 20M phone privileges." Field Day 1998 changed that attitude forever and heightened my interest in CW.

My Elmer, **KJ5ZR**, was the only station at our field day site using CW! I wondered why. It seemed that while everyone knew the code, nobody wanted to use it, so I began helping **Terry** by running CW on another band. I made many contacts on just about every band, and even grabbed some DX contacts during lulls in the contest. One fact really surprised me. While the voice bands were so crowded that only stateside stations could be heard, I worked DX stations with ease because of the low bandwidth of CW. This was the fact about CW that peaked my interest: while weak stations on SSB were completely covered up by adjacent interference, CW stations were easily picked out of the crowd.

CW is most enjoyable to me because of its aspect as a language; not a written or spoken language like Spanish or French, but a language of the hand and ears. As one becomes proficient with CW, he or she begins to recognize other operators' "fists" just as one can recognize the voice of a friend calling on the telephone. Even though there are many CW operators out there, I feel like a member of an elite group because I know "the code". If you were to ask around school or work for people who know Morse code, I'm sure you would get some funny looks. But in the Amateur Radio Community, many, many people know the code.

It's amazing what one can do with CW and less than 5 watts (QRP). If you've ever tried 5 watts PEP on SSB phone you know that it won't get you too far. But if you put a CW signal on the air with 5 watts, it will almost always get through. QRP is one of my favorite aspects of the hobby, an aspect that wouldn't exist without Morse code.

Imagine yourself planning a weeklong hiking trip in the high mountains of Colorado or the rolling hills of South Texas. As you pack for the trip, you're frowning at the prospect of taking your new (to you) Kenwood TS-520S. At 38 pounds, you definitely couldn't take that along with you, let alone power the rig. So, you look from the portable CW rig to the portable SSB rig. If you don't care how much weight is on your back for a week, you may choose the 5lb SSB rig, then pack the 15 pound gel-cell battery so you can have a few hours of operation. All the while you're thinking about the megawatt short-wave stations you'll be combating for airspace. If you're like me, you know that in hiking, WEIGHT IS EVERYTHING!

Easily, you decide on the CW rig. At less than a pound, you still have room to throw in a 2 pound, 3 amp-hour gel-cell battery, a dipole antenna, and a few feet of feedline. And, there you have it: hours of pure operating enjoyment on those cold nights in the wilderness, never worrying about the propagation. 40M CW is always great in the evenings. And hey, you're using CW. You'll get through. Without Morse code, this would be impossible. It's because of that fact that CW stands out to me.

As former President of my high school amateur radio club, I found that one of the major issues facing younger hams in Amateur Radio is the scarcity of low-priced alternatives to "kilobuck" high-priced transceivers. Most kids don't have the money. It's that simple. The alternative? Kits, kits, kits! For $55-$130, a young ham can build a CW transceiver while learning about electronics, RF theory, etc. True, the radio may put out only 3-5 watts, but many people have earned Worked All States, DX Century Club, Worked All Continents, and a plethora of other awards using less than 5 watts! If you're a young ham like me who doesn't have the money to spend on an HF transceiver, a kit is the easiest and cheapest way to get on the air. It provides a new level of satisfaction when you make contact after contact with something YOU built.

Our high school club sponsored a Novice/Tech class because

(Continued on page 5) Justin

(Continued from page 1) Pondering

Many countries have issued special event callsigns using the number either at the end of 1999 or the beginning of 2000. Finnish club **OH3AB** will host special event station OH2000 all next year to commemorate the millennium. Swedish society SSA plans several special event stations during 2000 to commemorate its 75th anniversary as well as the 75th anniversary of the International Amateur Radio Union (IARU). Awards are available for working stations SI75A, SI0SSA, SI1SSA, SI2SSA, SI3SSA, SI4SSA, SI5SSA, SI6SSA and SI7SSA, as well as other SSA stations.

Look for TO2000 from Guadeloupe (IOTA NA-102). Phil **ON4LCE** will use the special call from Dec 20 to Jan 3 on 10 through 80 meters. This should be easy on 10 meters at this time of year. Look for **DL2000** from Germany and **ZL2000** from New Zealand.

Expect a shark feeding frenzy early in the year. Central Arizona DX Association announced the first major DXpedition of the new year starting January 13. Nearly 25 operators from 7 countries will activate Thatay Khun Island, off the southern tip of the Union of Myanmar (Burma). This is only the second confirmed legal expedition to Burma in nearly 50 years. They will operate at least eight stations continuously for three weeks, mostly 80 through 10 meters. There will be specialists on RTTY, 160 and 6 meters. **XZ0A** represents an all-time new prefix and the first IOTA island activated in Burma. Top operators will come from the US, Mexico, Japan, Indonesia, Spain, Great Britain and Thailand.

Why all this DX & contest talk? Because it's fun, it improves your operating skill in a very short time and with sunspot Cycle 23 heating up it's easier than ever to participate. Many stations ran the CQ WW DX contest using less than 1 watt and reported working nearly 100 countries in one weekend. There's a lot to do besides only operating on the local VHF repeaters. Even no-code Techs can work occasional DX on 6 meters. Some 2-meter repeaters are occasionally linked to 10 meters allowing Techs to legally work cross band DX using an HT on 2 meters. Also, many DXpeditions regularly work 6 meters, although they're more difficult to access from Northern California than from some other areas in the US. Several Tech Pluses have been working repeater DX on 10 meters FM recently (another benefit of learning CW at just 5 WPM). In fact, because of skip, some have worked Northern California stations via Midwestern repeaters.

To get a better feeling for the 10/15 meter HF conditions recently, read this note from **Bob Kellogg AE4IC** from Greensboro, NC: "Sunday morning I worked stations as fast as I could hunt and pounce, all over Europe and the east coast of Africa. I'd run outside, move the beam by hand ('Armstrong' rotator) then run back inside and work another bunch, checking their locations. I'd move on if I didn't get a reply after about 3 calls. After three hours, I looked at the back of my rig and discovered that the beam wasn't connected. I was using a horizontal wire loop! I worked over 180 stations, all in foreign countries, several of them rather rare DX." Bob was running 5 watts CW, by the way.

143,750,000 miles / watt UHF QRP record set at Stanford. On November 15, **John Callas** of the Jet Propulsion Lab reported that the 46-meter (150-foot) diameter radio astronomy dish at Stanford received a signal from the 1-watt Mars Relay Beacon from Mars during tests the first week in November. CW and an FM modulated subcarrier were detected during the test. The reception by Stanford established the world distance record for a UHF signal at 230 million kilometers, and represents the first UHF signal ever received from Mars. The Stanford 46-meter dish also held the previous record of 50 million kilometers. Since we can see Mars, does it qualify as "line-of-sight"?

Several PAARA members were heard working the November Sweepstakes (SS). This contest's exchange is unique in that it replicates message handling. You send a serial number, your power level, your callsign, the year you were first licensed and your ARRL section. The goal is to work all ARRL sections and Canadian provinces, just like Field Day. It's easy to Work All States in one day during the SS. Many eastern stations were crying for Santa Barbara Section this year. Consider "roughing it" with a DXpedition to a luxury motel in Santa Barbara Section for next year's test! Hmmm. Let's see. **K6TOD**, a buddy from college, has retired to beautiful downtown Solvang. That sounds like a good field location.

Many hams are losing interest in the hobby. This is probably because of boredom more than anything else. We've grown accustomed to thinking of ham radio as only 2-meter HT work and not much different from walking around with a cellular telephone. If you're getting bored, consider implementing some of the activities we write about here in PAARA Ponderings. Regardless of what you may have heard about the imminent death of ham radio brought about by stagnation, hams are still innovative leaders in the actual application of newer technologies.

Zack Lau W1VT from ARRL labs says, "How about this challenge: working DXCC in the year 2000 with a single alkaline 9V battery as the sole power source for the transmitter? You can use whatever power level you like. You don't even have to measure it. But, you do have to use your power wisely, since you don't get to recharge or replace the battery. Who can get the highest total? Whose battery really lasts longest? 73. Zack."

During the winter, you may want to consider building a new kit or operating using a new mode. Or try building an antenna using a technique new to you. A fractal loop takes up less room than traditional style yagis or quads and would be a good experiment. Or, try a log periodic made of wires and dowels or copper tape on cardboard for your HT. How about a UHF rhombic taped to the ceiling or a patch type antenna? PAARA senior member **Art Bolton NM6K** told me that "Thinking must be the most difficult thing in the world. Otherwise more people would be doing it." Thinking outside the usual mental "box" is perhaps the most satisfying type of thought. Live some ham radio dreams. ☺ ☺ ☺

The PAARA Winter Party
January 14
at
"Michaels at Shoreline"

The cost will run $20-$25 each.
We would like a final count at the January meeting.
—Andreas, N6NU—

The Upper HF Bands

de **Paul Harden, NA5N**

10M depends exclusively on solar radiation to ionize the E and F layers in order to raise the maximum usable frequency (MUF) above 28MHz for good skip propagation. Generally, an MUF around 10M occurs with a solar flux around 150 or more. But this occurs during DAYLIGHT HOURS ONLY. 10M will "open" shortly after sunrise, and will die right at sundown. It's a daylight band only. This is true no matter where you are on earth, so your 10M signals will be heard wherever it is daylight. Thus, in early morning, your signals will travel eastward; a good time to work Europe/Africa. Late afternoon up to sundown, your signals will travel westward where it's still sunny, and thus a good time to work the Pacific/Japan/China, Australia, etc. During the day, with a solar flux above 150, 10M **will** be open. If you don't hear signals, then CALL CQ!!! Someone somewhere is listening to a "dead band" too!

15M functions very similar to 10M. When the sun goes down in your area, the ionosphere above your head is no longer being ionized. As free electrons are recombining with their host atoms, the MUF starts to come down and the ionosphere is less reflective. However, 15M (21MHz) is quite a ways below 10M (28MHz), and the MUF does not lower to 21MHz until sometime AFTER sundown; often several hours after sundown. Thus, 15M is also a daytime band, but good DX skip can persist for an hour or more after sundown. Also, the F-layer disappears right after sundown, so on 15M your signals may shift from bouncing off the F-layer to bouncing off the lower E-layer, completely changing where your signals will return to the earth after sundown, compared to before sundown. The higher the solar flux, the longer it takes for the MUF to drop and shutdown 15M, and the longer the E-layer will stay highly reflective.

Another factor for QRPers is understanding the role of the D-layer. This is the lowest layer ionized by sunlight. During the day, the D-layer absorbs some of your signals. Twice, in fact. Once when it leaves your antenna towards the E or F layer, and again when it returns to earth. D-layer absorption increases as you go lower in frequency, which is why skip on 40M during the day is almost non-existent. As the sun sets, the absorption caused by the D-layer diminishes, which is why 40M skip occurs at night. Now, back to 10/15M. At sundown, 10M dies, but 15M remains open for sometime afterwards. At this same time, the absorption caused by the D-layer is now less.

A REAL ADVANTAGE FOR QRPers: Work 15M right at sundown and afterwards (while it remains open) and you still have a nice reflective ionosphere above your head (the E-layer) for long skips, AND your pip-squeak QRP signals receive far less attenuation through the D-layer. This means more power reaches the other end of the circuit. Also, with less absorption and good reflection, sufficient power, even at 5W, exists for multi-hop skip. This is where your signal bounces off the E-layer and may strike an ocean (for example), which bounces the signal back up again, is refracted off the E-layer again, and lands in South Yemen or who knows where, not normally possible by a single skip scenario. So operating 15M right after sundown offers some interesting advantages for QRPers.

I can tell you from personal experience over several solar cycles that the upper bands (15-10M) are being UNDER UTILIZED right now. I don't hear the activity that should be there at this point in the active solar cycle. So again, don't blame the sun. Blame the lack of hams on the air. If you don't hear signals on 15M right at sundown or a bit after, then by all means, call CQ for awhile. Your signals ARE falling somewhere. It's a great way to work some rare DX.

Moral of the story: Don't let the "dead" bands scare you away. Physics are in place right now for 10 and 15M QRP QSOs. Gud DX. **Paul Harden NA5N.** ☺ ☺ ☺

(Note: Paul wrote this from the perspective of a low power station. It applies equally to high power stations.)

Vic Black, AB6SO

Honorary Members 1999

—

Professor Bob Twiggs KE6QMD
Dave Joseph WA6BOY
Greg Hutchen KF6YCR
Dick Kors KM6EP

(Continued from page 3) Justin

only 3 of the 15 club members were licensed hams. The students and the one teacher in the class thought of CW only as a hurdle until they saw how easy it was to learn. I asked if anyone knew the most common letter in the English Language, and quickly a student replied, "E, of course!" "Okay", I said, "then what would be the appropriate Morse code character for the letter E?" "Just a dot, I guess" replied one student. "Exactly. It's that easy, and all of you have only 25 letters to go!" One or two more class sessions and the students were ready to take the Novice written test and begin learning CW. When I asked the class whether they wanted to learn the code and shoot for the Novice class license, or study more theory and go for the Technician ticket, the results were unanimous. All wanted to become Novice Class hams and get on the air using CW. Not a path many hams take these days, but a step in the right direction, for sure! Remember, "When the going gets tough, a real ham can strip two wires, beat them together, and make the contact!"

I'm a member of the Tri County ARC of North Texas, the Internet QRP Club, the Adventure Radio Society, and the Nor-Cal QRP Club, as well as founder and former president of the Weatherford High School Amateur Radio Club. I've taught numerous licensing classes, and have introduced many of my friends to Amateur Radio. I'd like to find more people my age on the radio, so to all of you older hams out there, ELMER someone, please! ☺ ☺ ☺

Tnx es 72/73. **Justin K5AEA.**

WEB WANDERINGS

de Vic Black, AB6SO

If you participate in major contests and are eager to see how you're doing compared to other entries before the official scores are posted in magazines, go to http://www.hornucopia.com/3830score. You'll find interactive forms that allow you to input your raw scores for Internet publication. There are links to the **WA7BNM** contesting pages where the claimed scores are actually posted. This is handy since most contest results aren't actually published in magazines for 6 months to a year.

Last month **Paul Harden NA5N** wrote about working gray line DX. For an excellent dynamic world map depicting the gray line, go to http://dx.qsl.net/propagation/greyline.html.

Montclair College Professor **Tom Perera W1TP** from Upper Montclair, NJ, maintains a truly fascinating web page. His Telegraph & Scientific Instrument On-line Cyber Museum at http://chss.montclair.edu/psychology/perera/telegraph.html is dedicated to the preservation of telegraph history, lore and instrumentation. Tom has collected telegraph and radio keys for over 45 years. The instruments span the time from the Civil War to the present.

There are photos, illustrations and descriptions of his more than 1,000 keys on the updated web pages. Military keys are shown from the US, Great Britain, Austria, NATO, Canada, France, Italy, Germany, Japan, China, Russia and Czechoslovakia. I particularly like miniature keys. I was surprised to find that my Navy Flameproof is an exact copy of an earlier German military key. My South African Special Forces key turned out to be originally a French military key.

If you enjoy making keys, you'll find lots of ideas for innovation. Some of the Japanese keys mount to the front of radios and look like flush mounted drawer pulls. If you pull on the keys, they fold down out of the case for use. Many of the standalone keys also fold for compact storage.

Eliseo Chiaucci IK6BAK maintains a fine web page called the Small Key Museum at > http://www.qsl.net/ik6bak/keys.html. You'll find a nice collection of mostly European keys. Eliseo from Pesaro, Italy specializes in small keys, many of which include "Spy" in the model names.

Michael March W4FJJ from Winchester, VA designs, builds and collects keyer paddles. His web page http://www.qsl.net/w4fjj has photos of some slick magnetically damped paddles.

Go to the Telegraph Office, the web page of **Neal McEwen K5RW**, for a look at Neal's collection of more than 300 keys and telegraph instruments. He has examples from many of the more than 60 bug manufacturers. The page is located at http://fohnix.metronet.com/~nmcewen/ref.html.

I've written before about the web site of Morse Express. This is the home page for **Marshall Emm N1FN** from Aurora, Colorado. Marshall's collection of keys includes several from Australia where he bought them at hamfests. One of particular interest is a semiautomatic (bug) with three paddles. One paddle is for automatic dits, another for automatic dahs and the third is for manual dahs so you can modify your "swing" to suit yourself. Go to http://www.mtechnologies.com/n1fn/keys.htm to see the collection.

Also, while you're there, check out the new keys Marshall is selling.

Anton Koval UT7CT lives in a part of the Ukraine where the unemployment rate tops 80%. Skilled machinists are desperate for work. Anton designed three very nice key models and put his neighbors to work manufacturing them for sale by Marshall Emm at extremely favorable prices. They are well engineered, functional, serial numbered works of art.

PAARA Database Manager **Don Trask KF6JMQ** forwarded this message: "Here is a web site to download the code software Morse Academy.

<http://ah0a.org/AH0A.html> Also, download the Wavegen program at this site. It takes any text file and creates a CW wave file using the character rate, sending rate, and tone you specify. The best ham testing website for taking practice written exams for all classes and fully configurable code practice and code tests with multiple choice test and key is:

<http://www.biochem.mcw.edu/Postdocs/Simon/radio/exam.html>

I would recommend that if one wants to take his code practice on the road, get the MFJ-418 Code Tutor. It is $79 well invested. Also available from MFJ, get the book called Morse Code: Breaking the Barrier (the Koch Method) by **Dave Finley, N1IRZ**. http://www.mfjenterprises.com 73, **KC5ADF Bill Allen**."

Steve Stearns KF6OIK recommends web site <http://web.idirect.com/~rburnet/movies.html> for a listing of over 350 movies and TV programs that feature Morse code. Some have actual code, especially movies made during the 1920's and 30's when a lot of the viewers understood code and demanded authenticity. Others are gibberish thrown in for effect. Translations are presented for lots of the coded messages. This site also has a history of the Continental and American Morse codes along with some lesser know forms of code and training methods used to teach them.

AA9PW has a site with randomly generated amateur radio practice exams located at http://www.biochem.mcw.edu/Postdocs/Simon/radio/exam.html. This is a good place to try your hand at upgrading exams. ☺☺☺

GOOD NEWS

I have been assigned

K6L

for July 8th thru 10th Y2K.

That date will coincide with
WRTC 2000
and we shall be celebrating the
WRTC '96 anniversary.

I was host station K6L for WRTC '96.

73, **Kit Kohlmoos**
w6iso1@juno.com

Stanford Satellite Presentation at PARRA

Speakers at PARRA December meeting

Professor Bob Twiggs KE6QMD
Dave Joseph WA6BOY
Greg Hutchen KF6YCR
Dick Kors KM6EP

Professor Robert Twiggs, Director of the Stanford Satellite Development Laboratory, plus one grad student and two Stanford mentors presented an overview of the satellite activities at Stanford University. The team brought with them the prototype of "Sapphire", the first student built satellite at Stanford along with short videos, slides and several examples of "daughter" satellites, called picosats and CanSats (a complete satellite contained in a soda can).

Professor Twiggs began the presentation with an overview of the Stanford program followed with a lively description and slide presentation of the joint Stanford/Kennedy Middle School journey to Black Rock, Nevada last summer to launch several Cansats from amateur built rockets. Short videos showed the excitement of rockets flights up to 10,000 ft. Mentor Dave Joseph showed the effects on his beautifully crafted CanSat of the forces that were applied due to a miss calculation of the CanSat ejection system. He's hopeful they will do better next year. Grad student Greg Hutchen then described the picosat program at Stanford, an effort to build and launch arrays of small (less than 2kgs) satellites that can perform interactive, for example as a large aperture antenna. He also shows an example of an amateur radio cross-band VHF repeater which is about the size of a paperback and weighs less than 2kg that is scheduled to fly next year.

Wrapping up, the Stanford group issued the club two challenges. First, an invitation to build a club (PAARA??) satellite in the form of a "CUBE Sat", the newest Stanford form factor for small satellites. If completed by the club, the project has an excellent opportunity for an actual space launch within the next two years. The club, should they accept the challenge, would take complete responsibility for the project including definition, building, testing and qualification of the satellite, with only minor technical or qualification support from Stanford and only if required. The one condition insisted upon is that the club must involve middle school students in the project. The second challenge is for club members to become involved with the Stanford program as mentors and/or even more urgently as Stanford mentors with the Kennedy Middle School program in Redwood City. To obtain more information contact Professor Twiggs at btwiggs@leland.stanford.edu or Dick Kors at kors@netcom.com. ☺☺☺

—Dick Kors, KM6EP

Stanford Satellites home	http://aa.stanford.edu/~ssdl/
CanSat's at Blackrock	http://ssdl.stanford.edu/arliss/
CanSat home page	http://ssdl.stanford.edu/aa236a/#kiwi
CanSat Summer project	http://ssdl.stanford.edu/SummerSat/
CamSat Student project	http://ssdl.stanford.edu/aa236a/CanSat/teams.html
Emerald home page	http://ssdl.stanford.edu/Emerald/home.html
Sapphire home page	http://aa.stanford.edu/~ssdl/projects/squirt1/sapphire_overview.html
Opal home page	http://ssdl.stanford.edu/opal/
Opal Launch Info	http://ssdl.stanford.edu/opal/LaunchInfo.html
Santa Clara Univ. Program	http://www.eetimes.com/story/OEG19991011S0038
Picosat info	http://www.spacer.com/spacecast/news/nanosat-99f.html

PAARA Dues Are Due $12 for Year 2000

Subject: Automated Meteor Scatter Station For the Leonids Shower

I read the November QST article entitled "An Automated Meteor Scatter Station" on page 46 and decided to have a go at it. I dusted off an unused 2 meter beam and pointed in east (per my elmer) and hooked it to my 50 watt IC2350 set at 147.585 and my Kantronics KPC 3 Plus and my laptop running Pacterm. Left it running all night starting about 2300 local on 17 November. The next morning I checked the laptop at 0600 and found no record of anything but the local traffic beacons (Andy AC6GN et al). However, I received an email that brightened my day.

Granted that Petaluma ain't much - but this was the only report received by any of the south bay stations participating.

Date: Thu, 18 Nov 1999 22:41:15 -0800
From: Mike Knope <kd6lyu@sonic.net>
To: trask@best.com
Subject: Reception Report

Hi Don,

Just a note to let you know I received your UI packet on 147.585 at 0232 PST this morning, Thursday the 18th. That corresponds with the reported height of meteor activity from about 0200 to 0400 local. I had many local station calls on my MHEARD List that were dupes all night long in the log file. Since yours was in the log file just the one time I'm satisfied I heard you via scatter.

I'm located in Petaluma, about 90 miles north of you, grid square CM88qf. I was just listening (no xmit) since I only had a 5 watt H/T on an omni and didn't think anyone would hear me. Rig here was an HTX-202 H/T on a Diamond 510 into a MFJ 1278 monitored with Paket 6.1.

Please return e-mail and let me know what your were running and your antenna orientation.

73, **Mike Knope, KD6LYU**

—Don Trask, KF6JMQ

ARRL Headquarters

November 24, 1999

SB QST ARL ARLB092

ARLB092 FCC Denies League's Request for Stronger Federal Preemption Policy

The FCC has turned down a 1996 ARRL petition asking the Commission to go further in compelling state and local governments to reasonably accommodate Amateur Radio and apply the least restrictive means to regulate amateur antennas and activity. However, in denying the petition, designated RM-8763, the FCC did offer some words that may be helpful to amateurs.

The requested rules changes would have expanded and clarified PRB-1, the Federal preemption of state and local regulation spelled out by the FCC in 1985 and since incorporated into the laws of several states.

Specifically, the League called on the FCC to amend Section 97.15(e) of its rules to say that any state or local antenna restrictions limiting ham radio antennas to heights below 70 feet would be "presumed unreasonable" unless the state or local authority could show its restrictions were necessary for health, safety or aesthetic reasons.

Further, the ARRL asked the FCC to clarify that local government's role in applying PRB-1 was to accommodate ham antennas rather than to balance local interests against Federal interests in "effective public service amateur communications." The League also wanted the FCC to acknowledge that it "has no less interest in the effective performance of an Amateur Radio Station" in an area regulated by deed restrictions, covenants, or condominium regulations than by zoning ordinances. It also asked the FCC to preempt overly burdensome conditions and excessive costs localities might require in connection with amateurs antenna installations.

In its denial, in an Order released November 19, the FCC said it would not be "prudent" or "appropriate" to set a height standard for amateur antennas and supporting structures "because of varying circumstances that may occur" for differing antenna configurations. "We believe that the policy enunciated in PRB-1 is sound," the FCC said, noting that PRB-1 does not specify a height limit. The Commission also said it did not want to mandate specific provisions that localities must include in zoning ordinances.

"We continue to believe that the standards the Commission set, that is 'reasonable accommodation' and 'minimum practicable regulation', have worked relatively well," the FCC said. The Commission applied that same philosophy to the imposition of fees, zoning laws and other conditions that localities might impose on amateur antenna installations.

The FCC also said its policy with respect to restrictive covenants already is clearly stated in PRB-1, which excludes restrictive covenants in private contracts as "outside the reach of our limited preemption." The FCC did say that it "strongly encourages associations of homeowners and private contracting parties to follow the principle of reasonable accommodation" with respect to Amateur Radio. But it drew the line at proposing specific rule changes to bring private restrictive covenants under the umbrella of PRB-1.

The part of the FCC's Order that may prove most helpful is the assertion that PRB-1 precisely stated the principle of "reasonable accommodation." Some courts have held that a local authority can merely balance its own interests against those of the amateur. PRB-1 states that local regulations involving placement, screening, or height of antennas based on health, safety, or aesthetic considerations "must be crafted to accommodate reasonably amateur communications, and to represent the minimum practicable regulation to accomplish the local authority's legitimate purpose." In its Order, the FCC said that given PRB-1's explicit language, "it is clear that a 'balancing of interests' approach is not appropriate in this context."

The ARRL Executive Committee will review the Order at its December 4 meeting to determine what further action is appropriate. ☺ ☺ ☺

AMATEUR ("HAM") RADIO TRAINING CLASS

WHAT: Union City ham radio volunteers and the City are conducting a special training course open to the public to allow you to get your Federal Amateur Radio license ("No Code Technician"). This is a "cram course" - just two days, over a weekend. The FCC exam (65 multiple choice questions) will be given at the end of the class. Free further training is available through the Amateur Radio Emergency Service (ARES).

WHEN: January 22 and 23, 2000 (Saturday and Sunday)
8:30 AM - 5:00 PM

WHERE: In the Union City Council Chambers
Corner of Alvarado-Niles Rd. and Royal Ann Dr.
Union City, CA
Park in lot behind City Hall, South on Royal Ann, then left off Royal Ann at Arizona St.

FEE: $15.00 includes all materials and test fee

Contact:	Jack Mackinnon	Ross Peterson
Phone:	(510)276-4351	(650)349-5349
Fax:	(510)276-9237	(650)570-5558
e-mail:	k6tyf@arrl.net	wb6zbu@arrl.net

—Kenneth S. Dueker, KB6BPM

The PAARA Winter Party

January 14

at

"Michaels at Shoreline"

The cost will run $20-$25 each.
We would like a final count at the January meeting.
—Andreas, N6NU—

PAARA
Dues
are
Due
$12 for Year 2000
Pay to Treasureat next meeting or
mail to address on cover
Be sure to include your call

PAARA*graphs* Ad Rates

PAARA*graphs* accepts paid advertisements from non-members.
(short personal ads remain free for members in good standing).
All ad rates listed are per issue only.

1. Not for profit ads by association members for ham-related items and wants. No cost for business card size ads (additional space at $2.50 per business card size).
2. For Profit organizations and/or individuals: $5-business card size, $25-half page, $50 full page or back cover.

These fees may be reduced or waived in exchange for a valuable consideration that is given to the Association or its general membership. Such consideration must be in addition to any existing arrangements with the association.

The PAARAgraphs editors reserve the right to reject any ad deemed to be not in the best interest of the Association. All fees payable in advance by the year with "scanner-ready" copy or text-only ads. Give payment and copy to Bob Korte

PAARA · Palo Alto Amateur Radio Association · P.O. Box 911, Menlo Park, California 94026-0911
• Club meetings are on the first Friday of each month, 7:30pm at the Menlo Park Recreation Center, 700 Alma Street, Menlo Park, CA.•
• Radio NET every Monday evening, at 8:30pm, on the 145.230-600 MHz repeater, PL tone off.•
Membership in PAARA is $12.00 per calendar year which includes a subscription to PAARAgraphs, **$6 for additional family members (no newsletter).**
Make payment to the Palo Alto Amateur Radio Association.

PAARAgraphs January 2000

Palo Alto Amateur Radio Association, Inc.
PAARA*graphs* Newsletter
P.O. Box 911
Menlo Park, California 94026

FIRST CLASS MAIL

Korsak, Andy KR6DD
504 Lakemead Way
Redwood City, CA 94062-3919

INSIDE:

PAARA

Celebrating 62 years as an *active* ham radio club Since 1937